

REMARKS

Claims 1-5 and 7-13 are pending. No claims are currently added or cancelled.

Claims 10 and 12 have been withdrawn from consideration. Independent claim 1 is currently amended for purposes of clarification and without adding new matter. Support for the amendment may be found, for example, in Applicant's original application published U.S. Pat. App. No. 2007/0209307, original independent claim 1. Applicant respectfully requests reconsideration and prompt allowance of all pending claims, and rejoinder and allowance of the withdrawn claims, in view of the current amendment and the following arguments.

Applicant respectfully submits that this Amendment After Final Rejection places this application in condition for allowance by amending claims in a manner that is believed to render all pending claims allowable over the cited art and/or at least place this application in better form for appeal. This Amendment After Final Rejection was not earlier presented because Applicant believed that the prior Amendment and Response placed this application in condition for allowance, for at least the reasons discussed in the previous Amendment and Response dated November 23, 2011.

Furthermore, Applicant respectfully submits that this Amendment After Final Rejection at least places this application in better form for appeal. Applicant respectfully submits that this Amendment After Final Rejection should only require a cursory review because the claim amendment presented herein only delete a limitation added in a previous amendment to independent claim 1, does not add any new features and/or does not significantly alter the scope of the claims, relative to the originally-filed claims or the amendments to independent claim 1 added in the previous Amendment and Response dated November 23, 2011. Consequently, the claim amendments should not require any further search by the Examiner.

Additionally, this Amendment After Final Rejection is necessary as it clarifies and/or narrows the issues for consideration by the Board of Patent Appeals and Interferences and was not earlier presented because Applicant believed that the prior response(s) placed this application in condition for allowance, for at least the reasons set forth in those response(s). Accordingly, entry of the present Amendment, as an earnest attempt to advance prosecution and/or to reduce the number of issues, is respectfully requested under 37 C.F.R. § 1.116.

In the event that the Office declines to enter the present Amendment After Final Rejection, and (i) any portion of the present Amendment would place some of the claims in

better form for appeal if a separate paper were filed containing only such amendments or (ii) any proposed amendment to any claim would render that claim allowable, Applicant respectfully requests that the Office inform Applicant of the same pursuant to MPEP § 714.13.

Rejections Under 35 U.S.C. § 112

Claims 1-5, 7-9, 11 and 13 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for purportedly failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Independent claim 1, from which claims 2-5, 7-9,, 11 and 13 depend, is currently amended without prejudice to delete the limitation added in the Amendment of November 23, 2011, “wherein said bi-component an average length of approximately 3 mm.” While Applicant does not accede to the Examiner’s position regarding the alleged indefiniteness of that limitation and reserves the right to re-present such a limitation in a Divisional, Continuation or Continuation-in-Part application in the future, Applicant has elected to currently amend independent claim 1 to delete the limitation and thereby render moot and overcome the rejection for alleged indefiniteness. In summary, Applicant submits that the rejection of claims 1-5, 7-9, 11 and 13 under 35 U.S.C. § 112, second paragraph, has been overcome, and that the rejection should be reconsidered and withdrawn.

Rejections Under 35 U.S.C. § 103

Claims 1-3, 5, 7, 9 and 11 stand are rejected under 35 U.S.C. § 103(a) as allegedly being obvious and unpatentable over Thompson, Jr. (U.S. 5,642,601) in view of Nielsen (U.S. 5,167,764) and Hauser (U.S. 4,118,531). Claims 4 and 13 stand rejected under 35 U.S.C. § 103(a) as allegedly being obvious and unpatentable over Thompson, Jr. (U.S. 5,642,601) in view of Nielsen (U.S. 5,167,764) and Hauser (U.S. 4,118,531), as applied to claims 1-3, 5, 7, 9 and 11 above, and further in view of Frenette (U.S. 5,516,580). Claim 8 stands rejected under 35 U.S.C. § 103(a) as allegedly being obvious and unpatentable over Thompson, Jr. (U.S. 5,642,601) in view of Nielsen (U.S. 5,167,764) and Hauser (U.S. 4,118,531), as applied to claims 1-3, 5, 7, 9 and 11 above, and further in view of McCullough (U.S. 5,858,530).

As a threshold matter, Applicant’s independent claim 1 as currently amended broadly claims (*emphasis added*):

1. (A fibre insulation material comprising primary fibre components of a portion of 50 % to 90 % **cellulose fibres** said cellulose fibres having a length between about 0.5 to 10 mm; a portion of 2 % to 20 % synthetic fibres, said synthetic fibres being **crimped fibres** and having a length between 12 to 75 mm; and a portion of 2 % to 20 % bi-component fibres comprising a core and an outer sheathing, said outer sheathing having a lower melting point than the core, said bi-component fibres having a length between 1 to 10 mm.
Nielsen et al. actually discloses (col. 3, lines 48-59, *emphasis added*):

A composite wet-formed matt of the present invention is formed comprising a blend of **cellulose acetate fibers**, bicomponent fiber, and aqueous based organic solvent which solubilizes the surface of the **cellulose acetate fibers** to permit bonding of said fibers to the bicomponent fibers.

Applicant respectfully disagrees with the rejection of the claims as currently amended, for at least the following reasons.

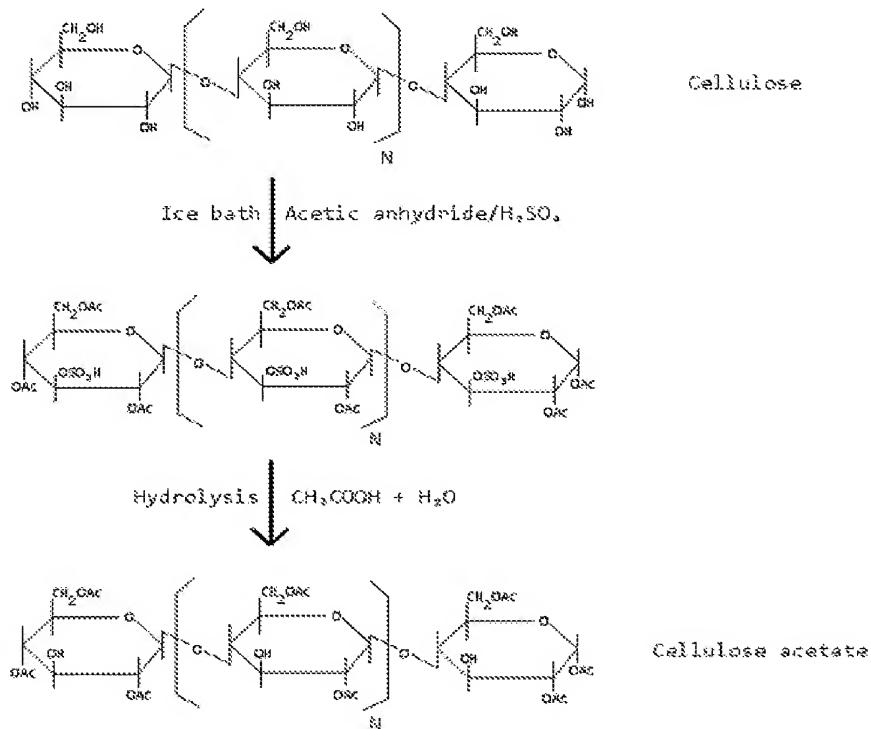
First, Applicant respectfully contends that the Patent Office has failed to establish a proper *prima facie* case of obviousness, at least because the Patent Office has failed to provide a proper combination of references that discloses, teaches or suggests all limitations of Applicant's claimed invention. The Patent Office relies, for each of the foregoing claim rejections, on Nielsen as allegedly teaching "that it was known in the insulation art to form an insulating material comprising **cellulosic fibers** and synthetic fibers, wherein the **cellulose** fibers have a length from about 1 mm to about 4 mm, and the bi-component fibres having a length between 1 to 10 mm.¹ However, Applicant respectfully contends that the Patent Office mischaracterizes Nielsen as purportedly disclosing **cellulose fibers** as claimed by Applicant, and further, that the Patent Office compounds this error by conflating Applicant's express claim limitation to **cellulose fibers** with the Patent Office's coined term "**cellulosic fibers**" which appears nowhere in Applicant's claims.

Cellulose acetate fibers are well known and commercially available. For the present invention, such fibers have a denier from about 1.5 dpf to about 8 dpf although higher dpf fibers can be used with about 1.8 dpf being preferred. The length of the fibers are from about 1/8 inch to about 1/2 inch fibers preferably 1/4 inch fibers used.

Thus, Applicant respectfully contends that Nielsen et al. has only been shown by the Patent Office only to disclose **cellulose acetate** fibers having a length of from 1/8 inch to 1/2 inch

¹ Office Action dated August 25, 2011, ¶ 5-6 (*emphasis added*).

(3.175 mm to 127 mm).² Applicant respectfully contends that **cellulose acetate** fibers are a chemically distinct derivative of Applicant's claimed **cellulose** fibers, as supported by the following publically available reference:³



Thus, Applicant respectfully submits that the Patent Office has not properly met its burden of showing that Nielsen, or indeed any of Thompson, Jr., Hauser, Frenette or McCullough actually discloses, teaches or suggests **cellulose fibres** having a length between about 0.5 to 10 mm, as Applicant currently claims. Therefore, the combinations of prior art references with Nielsen are not believed to disclose, teach or suggest all limitations of Applicant's currently claimed invention, as required to maintain a rejection for alleged *prima facie* obviousness.⁴

Second, the Patent Office relies, for each of the foregoing claim rejections, on Thompson Jr. or Hauser as allegedly teaching Applicant's currently claimed **crimped synthetic fibres** having a length between 12 to 75 mm. However, Applicant respectfully

² U.S. 5,167,764, col. 3, lines 48-59 (*emphasis added*).

³ http://en.wikipedia.org/wiki/Cellulose_acetate

⁴ See *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 231 USPQ 81 (Fed. Cir. 1986).

contends that the Patent Office mischaracterizes Thompson Jr. as purportedly disclosing **crimped fibers** as claimed by Applicant, and further, that the Patent Office compounds this error by first acknowledging that Thompson Jr. does not disclose the length of the allegedly **crimped fibers**, and then relying on Hauser as allegedly providing **crimped fibers** averaging between about 2 and 15 cm in length, without also providing evidence that such fibers are taught by Hauser as being present in the fibre insulation material in an amount of 2 % to 20 %, as Applicant expressly claims.

The Patent Office alleges [i]:⁵

should be noted that the springy fibers of Thompson Jr. are within the scope of the crimped and helically shaped crimped fibers, as the recitation of "springy" suggests that the fibers are coil-shaped and crimped in order to have stiffness and resilience to provide increased bulk or loft.

With particular reference to the Thompson Jr. reference, although Applicant agrees with the Patent Office that Thompson Jr. discloses use of "springy" fibers, Applicant respectfully disagrees with the Patent Office that a "springy" fiber necessarily equates to a "**crimped fiber**", as expressly required by Applicant's independent claim 1. Thus, Applicant respectfully contends that a "springy fiber" does not necessarily require crimping, and further, the crimping does not necessarily result in a "springy fiber." For example, the art recognizes that not all "crimped fibers" are necessarily "springy" or helical⁶:

What is crimp - Definition & Explanation:

a) In Fibre

The waviness of a fibre, i.e. the condition in which the axis of a fibre under minimum external stress departs from a straight line and follows a simple or a complex or an irregular wavy path.

NOTE:

1. In its simplest form, **crimp is uniplanar and regular**, i.e. it resembles a sine wave, but it is frequently much more complicated and irregular. **An example of three-dimensional crimp is helical.**

2. Crimp may be expressed numerically as the number of waves (crimps) per unit length, or as the difference between the distance between two points on the fibre when it is relaxed and when it is straightened under suitable tension, expressed as a percentage of the relaxed distance.

⁵ Office Action dated December 9, 2011, p. 4, first ¶.

⁶ See e.g. <http://www.textileglossary.com/terms/crimp.html>.

In fiber, a nonlinear configuration, such as a sawtooth, zigzag or random curl relative to the fiber axis.

Furthermore, it is well known in the art that fibers may be either mechanically crimped to form two-dimensional (i.e. zig-zag) crimps, or asymmetrically quenched to produce helical or spiral crimp⁷:

Crimp plays an essential role in the structure of fiber clusters and the ease of their formation. Moreover, crimp determines the filling power, softness and recovery from compression of fiberfill products. **Commercial filling fibers may have either mechanical crimp or helical, or spiral, crimp.** Mechanical crimp is produced by well known crimper box technology, while helical crimp is produced by asymmetrical quenching or by bicomponent conjugated spinning.

Thus, Applicant respectfully contends that the term “crimped fiber” is not synonymous with “helical fiber” or “springy fiber,” as alleged by the Patent Office. Although “crimped fibers” may, under some circumstances, be “helical” or “springy,” there is no requirement that “springy fibers” are necessarily crimped fibers.

Lastly, with particular reference to the Hauser reference, Applicant respectfully contends that the Patent Office has failed to establish a proper *prima facie* case of obviousness, at least because the Patent Office has failed to provide a properly articulated reason for combining the teachings of Hauser with those of either Thompson Jr. or Nielsen, and further, because the Patent Office has failed to show that the combination of references properly discloses, teaches or suggests all limitations of Applicant’s claimed invention.

Thus, although Applicant agrees that Hauser discloses helically crimped fibers averaging between about 2 and 15 cm in length, Hauser also clearly discloses such fiber range is useful only when a “lickerin roll” is used in the process:⁸

When using equipment such as a lickerin roll, the bulking fibers should average between about 2 and 15 centimeters in length. Preferably, the bulking fibers are less than about 7-10 centimeters in length.

And, Hauser also makes clear that a lickerin rule is only used in conjunction with a process in which the bulking (i.e. helically crimped) fibers are used directly in conjunction with a microfiber-blowing apparatus:⁹

⁷ See e.g. U.S. Pat. No. 6,492,020, col. 1, line 58 through col. 2, line 9 (*emphasis added*).

⁸ U.S. Pat. No. 4,118,531, col. 6, lines 38-40 (*emphasis added*).

⁹ *Id.*, col. 4, lines 39-56 (*emphasis added*).

The crimped bulking fibers are introduced into the stream of blown microfibers in the illustrative apparatus shown in FIG. 1 through **use of a lickerin roll 16 disposed above the microfiber-blowing apparatus**. A web 17 of bulking fibers, typically a loose, nonwoven web such as prepared on a garnet machine or "Rando-Webber", is propelled along a table 16 under a drive roll 19 where the leading edge engages against the lickerin roll 16. The lickerin roll turns in the direction of the arrow and picks off fibers from the leading edge of the web 17, separating the fibers from one another. The picked fibers are conveyed in an air stream through an inclined trough or duct 20 and into the stream of blown microfibers where they become mixed with the blown microfibers. The air stream is generated inherently by rotation of the lickerin roll, or that air stream may be augmented by use of an auxilliary fan or blower operating through a duct 21 as known in the art.

However, the Patent Office has failed to provide some articulated reason or motivation for one of ordinary skill in the art to use either **a lickerin roll or a microfiber-blowing apparatus** in either the wet-laying process taught by Nielsen et al. , or the carding process taught by Thompson Jr, as required to establish a proper *prima facie* case of obviousness.¹⁰

Applicant respectfully contends that an artisan having common sense at the time of the invention would not have reasonably considered embedding a lickerin roll within the existing wet-laying process taught by Nielsen et al., or the carding process taught by Thompson Jr., and therefore, that a skilled artisan would not have been motivated to inevitably use helically crimped fibers averaging between about 2 and 15 cm in length, which Hauser clearly discloses are useful only when a "lickerin roll" is used in the process.¹¹

In addition, the Patent Office has failed to provide a proper citation where Hauser discloses, teaches or suggests Applicant's claimed use of 2 % to 20 % synthetic **crimped fibres** in the fibre insulation material. And, even if the helically crimped fibers were, *arguendo*, selected for use by the skilled artisan in combination with the teachings of Nielsen et al. and/or Thompson Jr., the Patent Office has not properly established equivalence of the helically **crimped** fibers taught by Hauser with the "springy fibers" taught by Thompson Jr. or any of the fibers taught by Nielsen et al. Thus, absent such showing of equivalence, any teaching found in Nielsen of a weight loading of "springy fibers" or in Thompson Jr. of any

¹⁰ See *KSR Int'l v. Teleflex Inc.*, 127 S.Ct. 1727, 1741 (2007) (A claim composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the art in the relevant field to combine the elements in the way the claimed new inventions does.).

¹¹ See e.g. *Ex parte Green*, BPAI Appeal 2007-1271 (June 2007).

particular fiber weight loading is insufficient to disclose or teach Applicant's claimed use of **2 % to 20 % synthetic crimped fibres** in the fibre insulation material.

In summary, Applicant respectfully submits that the Patent Office has at least failed to properly provide a combination of prior art references that teaches or suggests all limitations of Applicant's claimed invention. For at least this reason, the combinations of references relied upon by the Patent Office do not establish a proper *prima facie* case of obviousness under 35 U.S.C. 103(a) with respect to Applicant's independent claim 1. If the Patent Office disagrees, then the Patent Office is respectfully invited to provide a proper citation, including column and line numbers, where any of the cited references provides proper disclosure of a portion of 50 % to 90 % **cellulose fibres** said cellulose fibres having a length between about 0.5 to 10 mm, and a portion of **2 % to 20 %** synthetic fibres, said synthetic fibres being **crimped fibres** and having a length between 12 to 75 mm.

In addition to the foregoing arguments, Applicant(s) submit that a dependent claim should be considered allowable when its parent claim is allowed.¹² Accordingly, provided independent claim 1 is allowed, all claims depending therefrom should also be allowed. Thus, the rejections under 35 U.S.C. § 103(a) of claims 1-5, 7, 9, 11 and 13 as allegedly being obvious and unpatentable over Thompson, Jr. in view of Frenette and Hauser or Thompson Jr. et al., in view of Nielsen et al. and Hauser; and of claim 8 as allegedly being obvious and unpatentable over Thompson, Jr. in view of Hauser and Frenette, as applied to claims 1-5, 7, 9, 11, and 13 above, and further in view of McCullough, or Thompson Jr. et al., in view of Nielsen et al. and Hauser , as applied to claims 1-5, 7, 9, 11 and 13 above, and further in view of McCullough Jr.; has been overcome and should be withdrawn.

Response to Arguments and Request to Withdraw Finality of the Rejections

Applicant notes that the Patent Office did not properly respond substantively to all of the arguments raised by Applicant in its Amendment and Response dated November 23, 2011. In particular, Applicant presented, in its Amendment and Response dated November 23, 2011, the preceding argument related to the failure of Nielsen, or indeed any of Thompson, Jr., Hauser, Frenette or McCullough , to actually disclose, teach or suggest **cellulose fibres** having a length between about 0.5 to 10 mm, as Applicant then claimed.

Applicant has been unable to locate, in the Office Action dated December 9, 2011, even a single argument directed to Applicant's earlier-raised contention that Nielsen, or

¹² *In re McCarn*, 101 U.S.PQ 411 (CCPA 1954).

indeed any of Thompson, Jr., Hauser, Frenette or McCullough , actually disclosed or suggested **cellulose fibres** having a length between about 0.5 to 10 mm, as Applicant then claimed. For at least this reason, Applicant respectfully submits that the Final Office Action dated December 9, 2011 did not properly address all of the arguments raised by Applicant in response to the Office Action, and thus does not properly answer all material traversed as required by MPEP § 707.07(f):

In order to provide a complete application file history and to enhance the clarity of the prosecution history record, *an examiner must provide clear explanations of all actions taken by the examiner during prosecution of an application....Where the applicant traverses any rejection, the examiner should, if he or she repeats the rejection, take note of the applicant's argument and answer the substance of it.*¹³

Thus, Applicant additionally respectfully submits that the Patent Office's failure to respond substantively to all arguments raised by Applicant in its Amendment and Response dated November 23, 2011 necessarily causes the Finality of the Office Action dated December 9, 2011 to be premature. Applicant therefore requests reconsideration and withdrawal of the finality of the Office Action dated December 9, 2011

Request for Rejoinder

Withdrawn claims 10 and 12 depend from independent claim 1 and incorporate all the claim features of currently amended patentable independent claim 1. Accordingly, it is submitted that withdrawn claims 10 and 12 are likewise patentable. Therefore, Applicant respectfully requests reconsideration, rejoinder and allowance of claims 10 and 12 under CFR § 1.104.

CONCLUSION

Reconsideration and withdrawal of the rejections of claims 1-5, 7-9, 11 and 13 under 35 U.S.C. § 112, second paragraph as allegedly being indefinite is respectfully requested. Reconsideration and withdrawal of the rejections of currently pending claims 1-5 and 7-13 under 35 U.S.C. § 103(a) as allegedly being obvious and unpatentable over the cited combinations of references is also respectfully requested. Applicant also respectfully requests rejoinder, reconsideration and prompt allowance of withdrawn claims 10 and 12, in light of the foregoing arguments. In the alternative, Applicant respectfully requests reconsideration and withdrawal of the finality of the Office Action dated December 9, 2011, due to the Patent

¹³ MPEP § 707.07(f) (*emphasis added*).

Office's failure to properly consider all arguments raised by Applicant in its immediately preceding Amendment and Response.

Based on the foregoing, it is submitted that the application is in condition for allowance. Allowance of all presently pending claims at an early date is solicited. In the event that the Examiner disagrees, Applicant respectfully requests a telephone interview to more fully understand the Examiner's position and advance this case to issuance under the Patent Office's policy of Compact Prosecution. The Examiner is respectfully requested to contact Applicant's representative at the number below.

Respectfully submitted,

February 9, 2012
Date

By: /James A. Baker/
James A. Baker, Reg. No.: 44,520
Telephone No.: 651-736-9667

Office of Intellectual Property Counsel
3M Innovative Properties Company
Facsimile No.: 651-736-3833

JAB/spg